

PATENT COOPERATION TREATY

PCT

REC'D 12 JUL 2004

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PN-23035-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR2003/000426	International filing date (day/month/year) 05 MARCH 2003 (05.03.2003)	Priority date (day/month/year) 05 MARCH 2002 (05.03.2002)
International Patent Classification (IPC) or national classification and IPC IPC7 F01L 1/18		
Applicant GM DAEWOO AUTO & TECHNOLOGY et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16 JUNE 2003 (16.06.2003)	Date of completion of this report 29 JUNE 2004 (29.06.2004)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer CHUNG, Sung Chan Telephone No. 82-42-481-8282 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/000426

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☐ the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement) under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☒ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages _____☐ the claims, Nos. _____☐ the drawings, sheet _____5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-4	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-4	NO
Industrial applicability (IA)	Claims	1-4	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: JP 59-150908 U (9 October 1984)
D2: JP 57-145709 U (13 September 1982)
D3: JP 57-165612 A (12 October 1982)

- Novelty (N)

D1 is the closest prior art. D1 and claims 1-4 of the present application have similarities in some components such as a rocker arm shaft and a spring. However, the present claims are different from D1 in that the rocker arm shaft consists of two or more shafts, and also different from D2-D3 in all components. Therefore, claims 1-4 are considered to meet PCT Article 33(2).

- Invention Step (IS)

The subject matter of claims 1-4 is hollow rocker arm shafts to offset the change in the length of the rocker arm shaft by heat, characterized in that the rocker arm shaft is divided into at least two shafts, and that a receiving groove for receiving an elastic member is provided between the rocker arm shafts.

D1 discloses a technical means comprising a cylinder head, a rocker arm shaft (3) of a hollow (5), and a spring (7) (see claim 1 and Fig. 2). Compared with the technical means of D1, the present invention is very similar in that a spring is provided in the rocker arm shaft, and that the rocker arm shaft is fixed by a screw at the right side of the spring, but different in that in D1 the elastic member is provided at one side of the rocker arm shaft, while in the present claims the rocker arm shaft is divided into at least two shafts, and a receiving groove for receiving an elastic member is provided between the shafts. However, such differences can be readily selected by a person skilled in the art from the teaching of D1 by a simple change in design, and there is no particular difficulty in the technical configuration of the present invention. In addition, no remarkably improved effect results from the present invention. Therefore, claims 1-4 are considered to lack an inventive step.

- Industrial applicability (IA)

The rocker arm shafts claimed in claims 1-4 are essential components for an automobile engine and can be used in the automobile industry. Therefore, the subject matter of claims 1-4 is considered to be industrially applicable.

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VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Among Figs. 1-4 which were to be submitted for supplementing the detailed description, Fig. 2 has not been submitted.